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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,944	05/04/2005	Marc Borner	BASF-0021	9585
24997 7590 01/22/2009 MILLEN, WHITE, ZELANO & BRANIGAN, PC 2200 CLARENDON BLVD SUITE 1400 ARLINGTON, VA 22201				
EXAMINER NGUYEN, THUY-AI N				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
01/22/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,944

Applicant(s)

BORNERT ET AL.

Examiner

THUY-AI N. NGUYEN

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 29, 2008 has been entered.

Claim 1 is amended. Claim 15 has been added. Claims 1 -15 are pending.

Election/Restrictions

Newly submitted claim 15 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 15 refers to a combination.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 15 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US. 5,290,361) in view of Smith et al. (US. 2005/0042198) as in evidence of Kakizawa et al. (US. 6,514,921).

Regarding claims 1- 4, Hayashida et al. teach a cleaning solution having the pH of about 8.5 (see example 11, col. 13) and comprising an alkaline quaternary ammonium hydroxide, 0.01 to 30 percent of hydrogen peroxide (col. 7: 1- 7), and chelating agent chelating agent nitrilotriacetic acid (NTA, col. 5: 1- 10).

Hayashida et al. do not teach the method for cleaning semiconductor, wherein the cleaning solution comprises 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris]. Smith et al. teach a solution for wetting, cleaning and rinsing contact lens comprising alkaline compound (sodium hydroxide, example 4, p. 3), hydrogen peroxide [0004], chelating agent nitrilotriacetic acid, EDTA [0005], water (example 4, p. 3) and 0.001 to 10 percent of the buffer (abstract) including 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris] (claim 13, p. 5). Hayashida et al. and Smith et al. are analogous arts because they teach about the similar cleaning solution comprising alkaline solution, hydrogen peroxide, water and chelating agents. Kakizawa et al. teach of using buffer in the semiconductor cleaning solution (col. 5: 10- 15). As in evidence of Kakizawa et al., at the time of the invention, it would have been obvious to one of ordinary skill in the art to add buffer 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris] of Smith et al. in the teaching of Hayashida et al. to maintain the pH within the desired range and achieve the cleaning efficacy of the solution or composition.

Regarding claim 5, Hayashida et al. teach a cleaning solution comprising from 1 to 1000 ppm of complexing agent including NTA (10^{-7} to 10^{-3} percent, col. 6: 39- 49).

Regarding claims 6- 7, Hayashida et al. teach a cleaning solution, according to the proportion of Bis-tris in the rejection of claim 1, the total amount of Bis- tris and NTA is within the range of the applicant which can be less than 4000 ppm and less than 2000 ppm.

Regarding claim 14, Hayashida et al. teach the method of cleaning a substrate including semiconductor and glass (col. 4: 19- 34), wherein the cleaning solution contacts with the surface to be cleaned (example 4, col. 10).

Claims 8- 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al. (US. 5,290,361) in view of Smith et al. (US. 2005/0042198) as in evidence of Kakizawa et al. (US. 6,514,921).

Regarding claim 8, Hayashida et al. teach a method of cleaning semiconductor substrate with the cleaning solution comprising a step of treating the substrate with a cleaning solution, rinsing and drying (examples 1-10), wherein the cleaning solution comprises the alkaline compound such as ammonium hydroxide, hydrogen peroxide, water (abstract), chelating agent EDTA, nitrilotriacetic acid (NTA, col. 5: 1- 10).

Hayashida et al. do not teach the method for cleaning semiconductor, wherein the cleaning solution comprises 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris]. Smith et al. teach a solution for wetting, cleaning and rinsing contact lens comprising alkaline compound (sodium hydroxide, example 4, p. 3), hydrogen peroxide [0004], chelating agent nitrilotriacetic acid, EDTA [0005], water (example 4, p. 3) and buffer [0003] including 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymehtyl)methan [Bis-Tris] (claim 13, p. 5). Hayashida et al. and Smith et al. are analogous

arts because they teach about the similar cleaning solution comprising alkaline solution, hydrogen peroxide, water and chelating agents. Kakizawa et al. teach of using buffer in the semiconductor cleaning solution (col. 5: 10- 15). As in evidence of Kakizawa et al., at the time of the invention, it would have been obvious to one of ordinary skill in the art to add buffer 2,2-Bis-(hydroxyethyl)-(iminotris)-(hydroxymethyl)methan [Bis-Tris] of Smith et al. in the teaching of Hayashida et al. to maintain the pH within the desired range and achieve the cleaning efficacy of the solution or composition.

Regarding claim 9-12, Hayashida et al. teach a method of cleansing semiconductor substrates at room temperature (col. 8: 5-15), and at 70 degree of Celsius for 10 minutes (examples 1-12).

Regarding claim 13, Hayashida et al. teach a method of cleaning semiconductor substrate comprising a step of immersing the substrate (wafer) into the solution (examples 1-12).

Response to Arguments

Applicant's arguments with respect to claims 1 to 7 have been considered but are moot in view of the new ground(s) of rejection.

According to the argument of claims 8- 14, although Smith et al. disclose a contact lens cleaning solution while Hayashida et al. disclose a semiconductor cleaning solution, these solutions are very similar that both solution are alkaline and cleaning solutions, and have many similar compounds including chelating agent NTA and hydrogen peroxide. In addition, Hayashida et al. further state that the said semiconductor cleaning solution can be use for cleaning glass substrates (col. 4: 19- 34) which is in the same field with contact lens of Smith et al.. As a result, Smith et al. and Hayashida et al. are analogous arts. Therefore, one skill in the art would find the teaching of Smith to cure the deficiency in the teaching of Hayashida as in evidence of Kakizawa et al..

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THUY-AI N. NGUYEN whose telephone number is (571)270-3294. The examiner can normally be reached on Monday-Friday: 8:30 a.m. - 5:00 p.m. eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

THA

/David Wu/
Supervisory Patent Examiner, Art Unit 1796